Altmetrics in Institutional Repositories: New Perspectives for Assessing Research Impact

Salima Rehemtula

Library, Faculty of Sciences and Technology, Universidade Nova de Lisboa, Portugal.

Email: ssr@fct.unl.pt .[1]

Maria de Lurdes Rosa

Department of History/IEM, Faculty of Social and Human Sciences, Universidade Nova de Lisboa, Portugal.

Email: mlrosa@fcsh.unl.pt.

Paulo Leitão

Art Library, Fundação Calouste Gulbenkian; CIDHEUS, Universidade de Évora; CHAM, Faculty of Social and Human Sciences, Universidade Nova de Lisboa, Portugal.

Email: pjleitao@gulbenkian.pt

Rosario Arquero Avilés

Department of Library Science, Faculty of Documentation Sciences, Universidad Complutense de Madrid, Spain.

Email: carquero@ucm.es

Introduction

The aim of this project is to find out if and how Institutional Repositories (IR) are using alternative metrics or Altmetrics (besides usage statistics and citation counts) as a value-added service to showcase their content impact and give some hints on how this tool can be used to supplement the traditional research performance assessment exercise in an institution. Altmetrics can provide a measure of impact for all non-journal scholarly works available in Open Access (OA), like usage statistics, but it can go further by contextualizing the readership of an author's research output. The increasing importance of Altmetrics indicators led to its inclusion in the 2014 edition of the Ranking Web of Repositories. This project promises to be useful for repositories managers in that it gives some examples of good practices of implementation of Altmetrics along with other metrics in IRs which can help to increase the content, foster the adoption of OA by authors, contribute to the visibility of the institution and meet the funding agencies requirements, thus making a strong case for the relevance of IRs in the context of the research assessment process.

Methodology

For the purpose of this project, the following data were collected from the 2014 edition of the Ranking Web of Repositories, regarding the top 100 IRs, between April 11th and 15th: evidence of statistics reporting; item/global level statistics; type of statistics generated (usage, citations, altmetrics); statistics provider; IR software; IR size and country of origin. The IRs homepage and content were scrutinized for these data and an Excel spreadsheet was used to gather the information obtained and for statistical analysis of the results. In this study the different "types" of repositories found in the top 100 were considered: institutional, disciplinary, digital library (for example of theses and dissertations) and a mix of IR, publishing platform and/or digital library. The fact that Altmetrics sources like Academia, Facebook, LinkedIn, Mendeley, ResearchGate, Slideshare, Twitter, Wikipedia (all editions), Wikipedia (English edition) and YouTube were included in the "Visibility" indicator of the 14th edition of the Ranking Web of Repositories, suggested that some top IRs could have included Altmetrics to supplement their existing "statistics

[1] Corresponding author.

package". Even though the sample used is only 6% of the total repositories in this Rank, the main purpose of this study was to find out some examples of Altmetrics implementation in IRs that could inspire repository managers to work in the same direction.

Results

The most important findings of this project are that the majority of IRs (70%) exhibit usage statistics at global and/or item level (download counts, page views and geographic provenance). But only few provide citation counts (9%) and Altmetrics (9%). But this numbers could be inflated if all IRs displayed metrics openly. The most used repository software platforms in this study - DSpace, EPrints and Digital Commons – currently deliver usage statistics that can be hidden (only viewed by administrators) or made available to the public. These platforms also supports citation counts (in the case of DSpace and EPrints, a plug-in is available if the institution has a subscription access to the SciVerse Scopus API) and Altmetrics reporting. In the IRs analyzed, citation data were displayed in two ways: through a badge (Scopus) and/or metadata ("dc.identifier" was used for placing DOI, Scopus ID, PubMed ID, Web of Science ID, Journal Impact Factor (JIF) and Scimago Journal Ranking (SJR); "dc.relation" was also used for DOI). Regarding Altmetrics reporting, the IRs use Altmetrics.com API that displays metrics related to social bookmarking and social media through a badge. In the table 1 are listed the IRs that provides Altmetrics data.

Table 1: List of IRs of the top 100 Ranking Web of Repositories reporting Altmetrics

Institutional Repository	Country	Software platform	Usage statistics	Citation counts	Altmetrics
Queensland University of Technology Institutional Repository	Australia	EPrints	×	×	×
Digital CSIC	Spain	DSpace	×	×	×
University of Queensland UQ eSpace	Australia	Fedora	×	×	×
LSE Research Online London School of Economics and Political Science	U.K.	EPrints			×
Purdue University DigitalCommons	U.S.A	Digital Commons			×
University of Wollongong Research Online	Australia	Digital Commons	×		×
Warwick Research Archive Portal	U.K.	EPrints	×	×	×
University of Glasgow Published and peer-reviewed papers	U.K.	EPrints	×		×
Indiana University Scholarworks	U.S.A	DSpace	×		×

Conclusions

Altmetrics are here to stay, and librarians, mainly those involved in learning and research support activities, must be familiarized with the tools available to implement and disseminate it. This study indicates that only a few IRs report Altmetrics data. Other studies demonstrate that many scholars aren`t using Altmetrics tools or are aware of its power. Librarians play a crucial role in supporting the adoption of this metrics by researchers in a responsible way. The IR may be the starting point to raise awareness of researchers and institutional administrators towards Altmetrics, using it as a value-added service. The metrics generated could be used to contextualize the usage statistics that doesn't tell the "story" behind the readership of scholarly works. It could also be useful to recruit more content to IRs and supply authors and institutions with data for various stakeholders (ex.: funding agencies). Although in its infancy Altmetrics reveals to be very useful in providing data about the impact of non-journal publications. And, in some cases, it could be a good predictor of later citations such as usage statistics, as some studies states. Also its immediacy in showing impact helps to fill the gap until the first citations appear. But unlike citations, Altmetrics are capable of giving context and meaning to impact. And, unlike JIF, Altmetrics provides impact at article level. For this and other reasons mentioned before, Altmetrics could be a valuable source of information concerning research impact when used with traditional metrics. Yet work has to be done to overcome some limitations of Altmetrics such as: gaming (this also happens with the JIF), discipline-based bias when collecting data from the same platform, differences in the meaning of data extracted from different social media, volatile aspect of social media (changes in usage patterns or platform obsolescence) and absence of a standardized way for reporting Altmetrics data. Altmetrics, like traditional metrics, are not infallible. But its increasing use by publishers on their websites and all the research that is being done in this field along with the tools that have been developed that deliver Altmetrics data, are a preview of the growing

importance of these metrics in the research arena. So it is essential for IRs managers to be prepared to enter into the "Age of Altmetrics".

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Curriculum Vitae

Salima Rehemtula is a PhD student at Universidad Complutense Madrid and works at the Library of FCT/UNL, mainly as the Institutional Repository, CRIS and Blimunda Project manager.

Maria de Lurdes Rosa is a professor and researcher at the FCSH/UNL. She also coordinates the MA in LIS and PhD study area in Historical Archives.

Paulo Leitão is a professor and researcher at CIDHEUS, Universidade de Évora and at FCSH/UNL. He is also a librarian at the Art Library, Fundação Calouste Gulbenkian.

Rosario Arquero Avilés is a professor and researcher at the Faculty of Documentation Sciences/ UCM. She is co-director of Publidoc-UCM research group and member at General Board Representative of the University.